

GP-303399

DIE CUSHION APPARATUS FOR HOT STRETCH-FORMING

ABSTRACT OF THE DISCLOSURE

A self-contained die cushion assembly for use in a stretch-forming process involving heated tooling. A lower plate is mounted below an upper plate that undergoes different thermal expansion than the lower plate. Guidance devices are mounted between the upper and lower plates and include a guide post, a bearing sleeve circumscribing the guide post, and a cylinder circumscribing the bearing sleeve. The guide post is mounted in fixed relation to the upper plate, and the cylinder is mounted in laterally translatable relation to the lower plate to accommodate lateral relative displacement between the upper and lower plates due to different thermal expansion thereof, thereby preventing binding of the guidance devices.